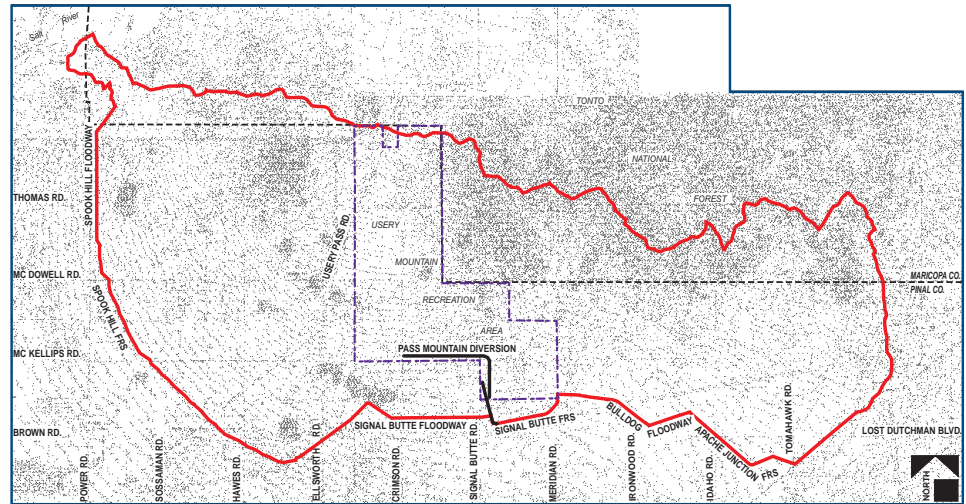




## Study Purpose

The Spook Hill Area Drainage Master Plan (ADMP) began in November 1999 as an update to the 1987 plan. Since the original working plan, much of the community has been developed, additional drainage infrastructure now exists, and changes have been made in the watershed.

The City of Mesa requested that the Flood Control District of Maricopa County (District) identify current area flooding problems and develop alternative solutions to these flooding problems. The Spook Hill area in East Mesa currently does not have the flood control and drainage facilities in place to handle their regional flood problems.



Study Area

## Study Progress

The study team has already completed the Data Collection, Hydrologic Modeling, Data Analysis, and Alternatives phases of this project. During the first phase, the study team held two brainstorming meetings with the various project stakeholders, which included the City of Mesa and various county departments. In addition, to ensure that the original design intent of the Spook Hill Flood Retarding Structure was followed as closely as possible, the study team also extensively researched the original design of the Buckhorn-Mesa structures.

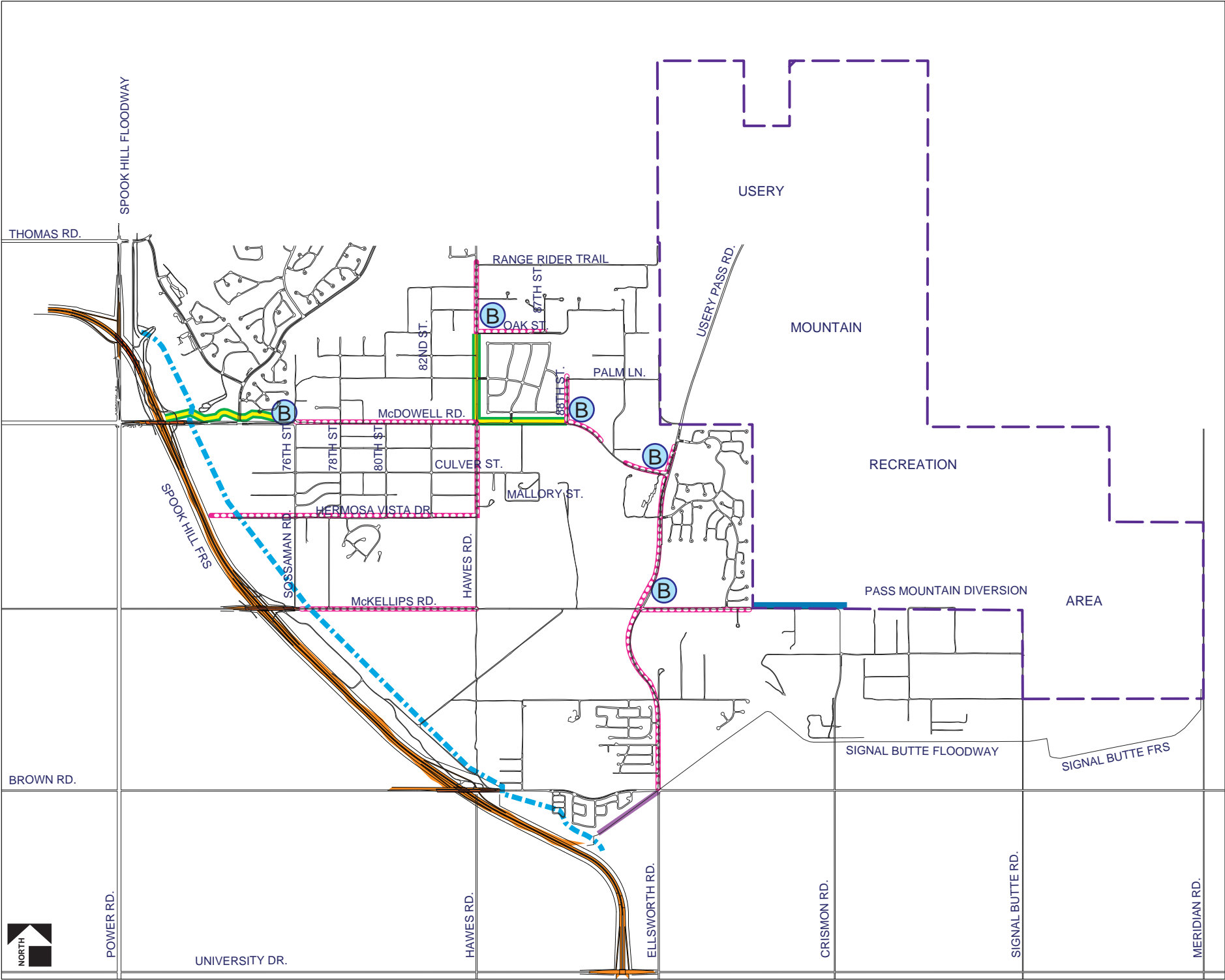
During the Alternative Analysis phase of the project, the study team evaluated possible alternative solutions and developed relative costs, constraints, and opportunities for each alternative. Six alternatives were presented to the public on April 5, 2001. An additional public meeting was held on August 16, 2001. However, following significant public concern and opposition about the alternative that impacted Usery Mountain Park, the study team was asked by County Supervisor Don Stapley to develop new alternatives that met the following four criteria:

- The preferred alternative should not impact Usery Mountain Park,
- The preferred alternative should be cost-effective,
- The preferred alternative should maximize the flood protection,
- The preferred alternative should not displace any homes or businesses.

Additionally, in response to a great amount of public interest in the Spook Hill ADMP, and at the request of County Supervisor Don Stapley, the Mesa City Council appointed a Citizens Committee to evaluate possible alternatives for flood control in the Spook Hill Area. Between September 2001 and February 2002, the Committee held regular meetings to discuss alternatives presented to them by the study team. Numerous alternatives were developed and, through an evaluative ranking process, four of these alternatives were presented at a public meeting held by the City of Mesa on January 10, 2002.

The public's comments were carefully considered by the Citizens Committee in their final selection of a drainage alternative. After thorough deliberation, the Committee developed a recommended alternative that has been endorsed by the City of Mesa staff and study team. The Recommended Drainage Alternative is presented on the next page.

# Recommended Drainage Alternative



## KEY

- Spook Hill Flood Retarding Structure Right-of-Way Limit
- Floodway Improvements
- Open Channel
- Open Channel (Existing)
- Underground Pipe/Box
- Detention Basin
- Red Mountain Freeway Alignment

## Description:

- Constructs a new pipe/box culvert within the Ellsworth Road right-of-way to convey storm water to the Signal Butte Floodway.
- Constructs a new pipe culvert within the McDowell Road, McKellips Road, Hermosa Vista Drive, and Hawes Road right-of-way to convey storm water to the Spook Hill Flood Retarding Structure floodpool.
- Constructs off-line detention basins and associated collection systems at five key locations.

## Benefits:

- 100-year regional flood protection provided by new collection/conveyance systems in McDowell Road, Hermosa Vista Drive, McKellips Road, Hawes Road, and Ellsworth Road.
- Reduces flooding hazards in approximately 3500 acres (5.5 square miles) of watershed.
- No disturbance to Usury Mountain Park.
- No relocation of residents or businesses.
- Preserves approximately 45 acres of open space and wildlife habitat.

## Constraints:

- Traffic may be significantly disrupted on McDowell Road, Hermosa Vista Drive, Ellsworth Road, McKellips Road, and Hawes Road during construction.
- Timely acquisition of basin sites is critical.
- Availability of funds may impact construction schedule.

## Preliminary Total Cost Estimate:

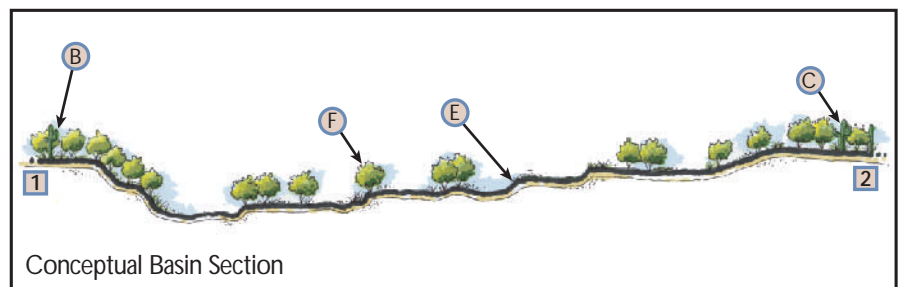
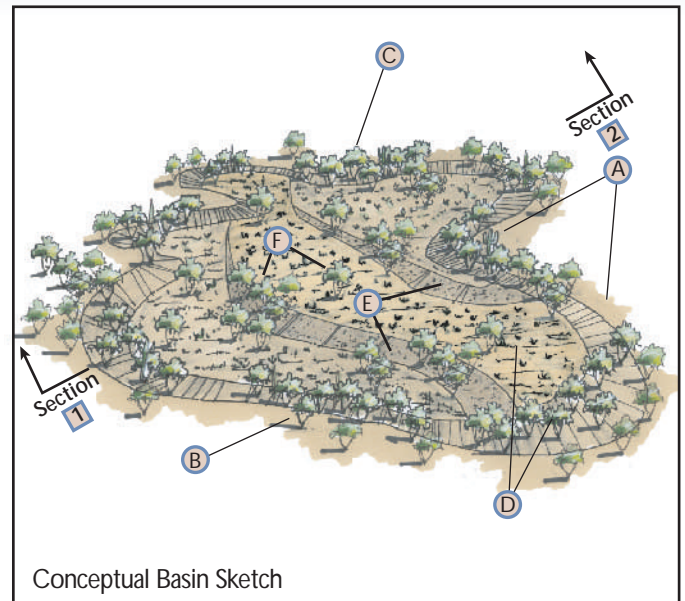
\$34.5 Million

Note: The natural drainage flow in this area is from the northeast to the southwest.

## Aesthetic Treatments

An important part of the development and design of the Recommended Drainage Alternative has been the consideration of the visual impacts and aesthetic opportunities. The illustrations shown here reflect the typical design and treatment of facilities that would be included to integrate this alternative into the community and surrounding landscape. Design guidelines will be developed as part of the Spook Hill ADMP to ensure that these ideas are carried to the next level of development. Examples of the design guidelines are shown in the Conceptual Basin Sketch and Section and include the following:

- A Creating irregular-shaped basins with varying side slopes.
- B Creating 50-foot undisturbed landscape buffer around the entire basin.
- C Preserving and protecting existing saguaros, mature native trees, and other cacti species.
- D Revegetating all disturbed areas with native plant material and irrigate until plants are established.
- E Terracing and shaping basin bottoms to create subtle changes in form.
- F Creating earthen, vegetated basins.



## Next Steps

The study team is currently in the final phase of the project and is in the process of developing 15 percent design plans for the Recommended Drainage Alternative. The team is also evaluating right-of-way requirements, landscaping, utility conflicts, and environmental impacts (cultural, biological, socioeconomic, etc.). Final hydrologic models are also being developed for the Recommended Drainage Alternative and the off-line detention basins and outfall pipes are undergoing preliminary design. Once these are completed, the Recommended Alternative will be presented to the Mesa City Council and the Flood Control District Board of Directors for final approval and adoption. This planning project is scheduled for completion at the end of June 2002. Projects from this plan will then be scheduled for final design and construction based on available funding.

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For more information, please visit the project website: [www.spookhill.com](http://www.spookhill.com) or the District website: [www.fcd.maricopa.gov](http://www.fcd.maricopa.gov).